E. RICHARDS.

LEAF BINDER.

APPLICATION FILED MAR. 24, 1917.

1,250,016. Patented Dec. 11, 1917.

Fig. 1.

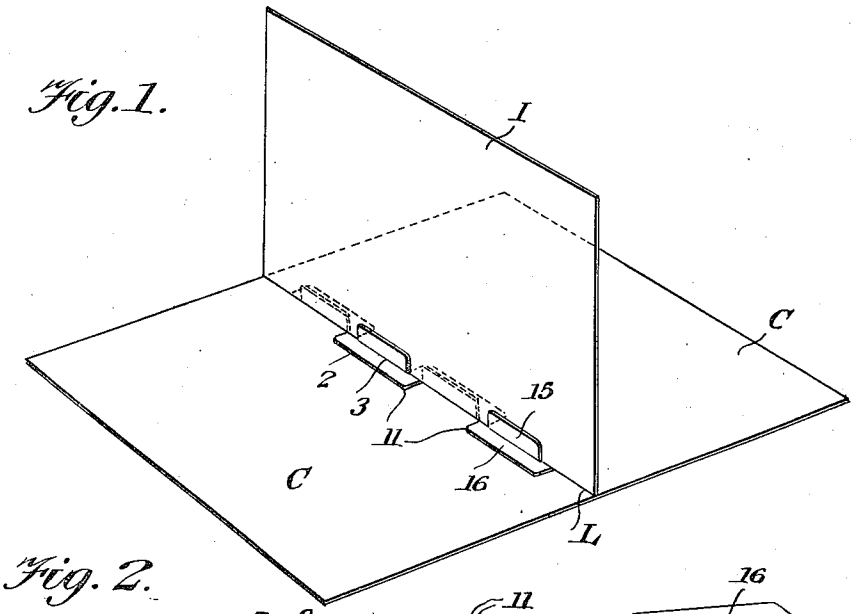


Fig. 2.

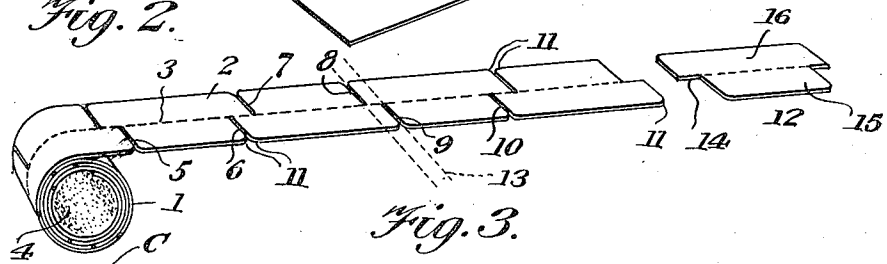
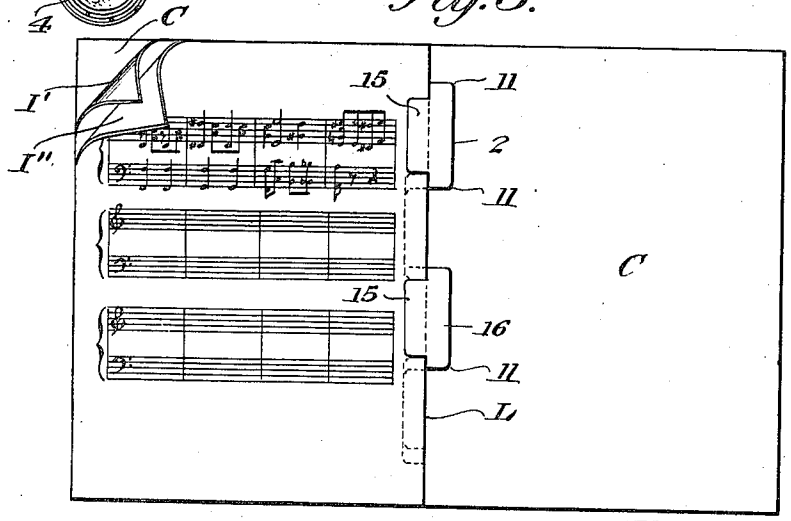


Fig. 3.



WITNESSES

F. W. Ackmann Jr.

N. F. Hanner

INVENTOR

Everett Richards

BY Victor J. Evans

ATTORNEY

UNITED STATES PATENT OFFICE.

EVERETT RICHARDS, OF EFFINGHAM, KANSAS.

LEAF-BINDER.

1,250,016. Specification of Letters Patent. Patented Dec. 11, 1917.

Application filed March 24, 1917. Serial No. 157,156.

To all whom it may concern:

Be it known that I, EVERETT RICHARDS, a citizen of the United States, residing at Effingham, in the county of Atchison and State of Kansas, have invented new and useful Improvements in Leaf-Binders, of which the following is a specification.

This invention relates to book binding, and more especially to binding devices adapted for connecting an additional leaf or perhaps a folio with the original or main folio, which for purposes of this specification we may well call the cover. My object has been to provide a device especially intended for attaching the loose leaves to the fold line between the leaves of the folio of a sheet of music.

The intent of my idea is to produce a leaf binder, made in strip form and furnished to the consumer in rolls, and from which the proper lengths may be detached readily and without instruments and the loose leaf thereby fastened into the fold of the cover, or, as it were, bound therein in a manner which will remove the above objections if the article be a piece of music, and will in any event afford a neat, simple, inexpensive, and effective binding for all purposes.

Details of the general idea will be found in the following specification, reference being had to the accompanying drawings wherein:—

Figure 1 is a perspective view of a stretch of this leaf binder, shown as in use, holding a single inserted leaf within a cover folio.

Fig. 2 is a perspective view of a roll of this leaf binder, from which a stretch is drawn and illustrated in plan view, and one section is removed from the right-hand end of the stretch.

Fig. 3 is a plan view of a piece of music comprising the outer folio or cover and an inner inserted folio hingedly secured or bound into the cover by means of my improvement.

The main portion or outer folio of the piece of music illustrated in the present instance, and which I have called the "cover" above, is designated by the letter C, and it is made up of two leaves connected by a fold line indicated at L. The inserted member is shown as a single leaf marked I in Fig. 1, and as a folio whose two leaves are respectively marked I′ and I″ in Fig. 3. As above suggested, these may be music or any other leaves, and it is quite possible that the cover lettered C could be stiff. The purpose of the present invention is to bind the inserted member into the fold line L of the cover.

As seen to the left of Fig. 2, I preferably supply my article of manufacture in the form of a roll 1 (which will doubtless be inclosed in a box, package, or container forming no part of the present invention) of suitable length according to the wishes of the purchaser and the extent of the use to which it is to be put. This numeral designates a rolled strip 2 which is of appropriate material and which, for the purposes of the present invention, we may say is paper. It should be rather tough paper, perhaps an inch in width, and it is scored throughout its length along its transverse center as indicated at 3, the score line permitting it to fold without cracking, although necessarily to an extent weakening the paper or other material at this point. I emphasize the fact that the score line is entirely disposed in what might be called the upper face as seen in Fig. 2, and the entire lower face is gummed as at 4 with mucilage, cement, or other suitable adhesive, not necessary to specify. This may require the insertion of an additional strip as wax paper between the convolutions of the roll 1, but the use of such additional strip or member between convolutions or sheets which would otherwise adhere is well known and constitutes no part of the present invention. Therefore I have not considered it necessary to illustrate the same. In the act of making the strip and scoring it, the same is provided at proper intervals with slits extending from the score line 3 completely outward to the edges of the strip, and the disposition of these slips with respect to each other and with respect to those on the opposite side or half of the strip is important. Referring now to Fig. 2, there is a pair of slits 5 and 6 in the lower half, then a pair of slits 7 and 8 in the other half, then another pair of slits 9 and 10 in the lower half, and so on, alternately throughout the length of the strip. The members of any pair, as 5 and 6 or 7 and 8, are spaced a given distance apart, and this distance is less than the distance between the members 6 and 9 for instance. The side edges of each slit may be rounded off at its outer end as seen at 11, but this is not essential.

The result of this peculiar disposition of the slits is the production of a series of substantially T-shaped members as indicated at 12 where one of such members has been removed from the right end of the strip at Fig. 2, and the shank of each T is opposite the heads of the T's next adjacent. Before these members are removed or separated from each other, it will be seen that there are narrow straps 13 extending completely across the strip 2 between contiguous slits of opposite pairs, as 8 and 9 in Fig. 2, and each strap is made up of the overhanging portion of the heads of two contiguous T-shaped members 12. By reason of the fact that these slits, as 8 and 9, extend from the score line 3 completely to the outer edges of the strip 2, it therefore becomes very easy to separate or tear off this strip at any point desired, as all that is necessary for the operator is to tear along the score line between any two contiguous slits of opposite member, as for instance from the point 6 to the point 7 where the inner ends of the slits bearing these numbers intersect the fold line 3. In other words, the line of tear would be where indicated at 14 in Fig. 2. For reasons which will appear below, I preferably make all slits extend at right angles to the fold line 3, whose exact center their inner ends intersect.

In the use of this binding element, a sufficient length is detached from the roll 1 for the purpose required. In binding a loose leaf into the main folio of music, it may not be necessary to carry the binding completely to the upper and lower ends of the fold line L, but that is a matter which may be left to the operator. The folio C is laid out flat, the several shanks 15 of the detached section of strip turned upward, and the gum on all the remaining portion moistened, after which the section is laid over the fold line L with the score line 3 coincident with such line as seen in Fig. 1. The now upstanding shanks 15 are deflected or bent a little farther than upright, or so that their gummed faces may be seen from above; and the inserted sheet I is passed down in a vertical plane so that its inner edge is entered between said gummed faces. The latter having been moistened, the shanks are pressed against the opposite sides of said sheet I along its inner edge, and thereby the sheet or leaf is bound to the cover element C on a line exactly co-incident with that marked L.

If the inserted element be itself a folio having two leaves as I′ and I″, in Fig. 3, the same course is followed in binding it into the element C and the same results will be attained. The only difference is that the upstanding shanks 15 will be applied to and gummed upon alternately outer faces of the two leaves of which this inserted element is composed, rather than opposite sides of the single leaf I as shown in Fig. 1. In either case, after the inserted element is applied and when it is laid over to one side as seen in Fig. 3, there appears along the fold line L a series of spaced T-shaped elements as shown in full lines in this view, and it will be clear that the interposed T-shaped elements underlie the inserted member between those which appear.

Carrying the idea yet further, if now it should be desired to bind in a single leaf as I into the middle or fold of the inserted element I″, the latter is opened wide along its fold line the same as was the cover C, and the single leaf I inserted in the same manner by using another section torn from the roll 1. Or if it should be desired to bind the single leaf in at one side of the inserted element instead of between the leaves of the latter, it would be quite possible to lay open the structure shown in Fig. 3, apply a section of the strip as above described by gumming the alternate head 16 to the cover C and to the already inserted leaf I′, and then gumming the upstanding shanks 15 to alternately opposite sides of the leaf I which will thus be inserted behind or to the right of the inserted folio, instead of into the center of the latter. In either case the overlapping of one section of the binder upon another already in place, adds strength to the binding of the whole as is obvious. The fact that all the slits extend straight outward from the fold line 3 to the extreme outer or side edges of the strip 2, will at this time prevent any of them from overlapping each other or crossing each other, which of course would weaken the device. Moreover, by making the slits stand at right angles to the fold line, each shank portion 15 is caused to be just as wide at its inner edge where it joins said line as it is at its outer edge, excepting only for the corners which may be rounded off as indicated at 11.

For large pages or where considerable strength is desired, I would space the pairs of slits a little farther from each other than is illustrated in Fig. 2, or in other words I would make the straps 13 between the pairs of slits wider—perhaps as wide as the slits themselves are spaced from each other, and this could be done without difficulty.

The severed portion 12 of substantially T-shape, shown at the right of Fig. 2, may itself be used for a variety of purposes. Of course it is capable of employment as a hinge between any two members which are to be united along a fold line. It might be set across a tear in any leaf. Especially it might be folded reversely on its score line 3, and stuck over the edge of a leaf to bridge

a tear, or to afford a hand-hold or thumb piece by means of which the outer edge of the leaf could be handled in turning it over.

What is claimed as new is:—

1. The herein described leaf binder made in strip form and scored on its upper face only throughout its length midway between its edges, the strip having slits parallel with each other and disposed in pairs, those of one pair extending from said fold line completely to one edge of the strip, those of the next pair from said line completely to the opposite edge of the strip, and so on, and means for attaching the parts of said strip to the leaves which are to be hingedly connected.

2. The herein described leaf binder made in strip form and scored on its upper face only throughout its length midway between its edges, its entire lower face being gummed, the strip having slits parallel with each other and disposed in pairs, those of one pair extending from said fold line completely to one edge of the strip, those of the next pair from said line completely to the opposite edge of the strip, and so on.

3. As a new article of manufacture, a leaf binder made in the form of a strip having a longitudinal central score line in one face only and gum over its entire opposite face, and slits at right angles to said score line and extending from it outward completely to the edges of said strip, the slits being disposed in pairs in alternately opposite halves of the strip and those of each pair being nearer together than those of the nearest slit in the next adjacent pairs on the opposite half.

4. As a new article of manufacture, a leaf binder composed of a strip of paper having one face gummed, said strip being scored along its transverse center and slitted from the score line outward to its edges to make up a series of substantially T-shaped elements disposed end to end in alternated arrangement and with the shank of one element contiguous to but separated from the head of the next element by certain of said slits.

In testimony whereof I affix my signature.

EVERETT RICHARDS.